

REMARKS

I. Status of the Application

Claims 1-13 and 31-32 are pending in this application. The specification has been objected to on the grounds that the status of cross-referenced applications should be brought up to date. Claims 1, 10 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,430,476 to Duda ("Duda"). Claims 1, 10, 12 and 31 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,383,678 to Kaneko ("Kaneko"). Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of U.S. Patent No. 6,261,710 to Marianowski ("Marianowski"). Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of U.S. Patent No. 4,514,475 to Mientek ("Mientek"). Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of Japanese Patent No. 11-250917A ("JP '917"). Claims 2-9 have been objected to as being allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Claims 1, 2, 5 and 32 have been amended. New claim 33 has been added. No fee is believed to be due for the addition of new claim 33 since the total number of pending claims is 16.

Claim 5 has been amended in non-limiting fashion to correct a typographical error. Claim 32 has been amended in non-limiting fashion to more clearly define that the sheet is coiled after it has been passed through the tool, that is, the sheet is recoiled. Support for this embodiment is found at page 5, lines 8-10 of the specification.

Applicant respectfully requests entry of the foregoing amendments, and reconsideration of the pending claims. Each of the Examiner's rejections is addressed below.

II. Specification

The specification has been objected to on the grounds that the status of cross-referenced applications should be brought up to date. The specification has been amended as suggested by the Examiner and is now believed to be in proper form.

III. The Claims Are Novel Over Duda

Claims 1, 10 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Duda. This rejection is respectfully traversed.

Duda discloses a corrugating machine that produces a sheet having ribs extending diagonally across the sheet from one edge to the opposed edge. Duda does not disclose or make obvious the step of forming a pattern on a central portion of a sheet, the pattern including ribs defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet, with the central portion positioned between a first outer portion and a second opposed outer portion and the first and second outer portions being **free of ribs**, as required by independent claim 1.

There are simply no outer portions in the plate formed by Duda that are free of ribs. As noted above, the ribs of the plate of Duda extend diagonally across the plate from one peripheral edge to the opposed peripheral edge. Accordingly, the rejection is improper and should be withdrawn.

IV. Kaneko is Not a Proper Reference

Claims 1, 12, and 31 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kaneko. This rejection is respectfully traversed.

Applicant respectfully points out that the present application claims priority to Provisional Patent Application No. 60/165,712, which as filed on November 16, 1999, and provides support for claims 1, 12 and 31. This provisional application predates the 35 U.S.C. § 102(e) date of Kaneko, which is December 1, 1999. Consequently, Kaneko is improper as a reference under 35 U.S.C. § 102(e) with respect to these claims and the rejection should be withdrawn.

Additionally, the rejections of claims 13 and 32 as unpatentable over Kaneko in view of Marianowski, Mientek, and JP '917, respectively, are improper since Provisional Patent Application No. 60/165,712, which as filed on November 16, 1999, provides support for claims 13 and 32 as well. Accordingly, these rejections should be withdrawn as well.

V. The Claims Are Novel Over Kaneko

Claims 1, 10, 12, and 31 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kaneko. Notwithstanding the fact that Kaneko is not a proper reference with respect to claims 1, 12, 13, 31 and 32, Kaneko fails to disclose that which is claimed.

Kaneko discloses a method of forming a separator plate 22. The plate 22 is formed with a plurality of projections extending outwardly from its surface. Kaneko does not disclose or make obvious the step of forming a pattern on a central portion of a sheet, the pattern including **ribs** defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet, as required by independent claim 1.

Applicant respectfully submits that the pattern of Kaneko does not include ribs, as suggested in item (7) of the Office Action at page 4. Rather, Fig. 4 illustrates the step of forming the projections seen in Fig. 2. As noted in the “BRIEF DESCRIPTION OF THE DRAWINGS section of Duda at col. 3, lines 31-35, “FIG. 4 is an illustration showing one example of the step 110 and the step 120 in Fig. 3,” while “FIG. 3 is a flowchart which shows one example method for producing the separator 20,” and “FIG. 2 is a schematic plane view of the separator 20.” As noted in the specification at col. 4, lines 4-5, “the conductive metal plate 22 ... has ... a plurality of projections.” Further, as noted at col. 4, lines 56-60, a hot-press step 120 shapes the plurality of projections on the conductive metal plate 22, as shown in FIG. 3. Finally, as noted at col. 4, line 66 through col. 5, line 8, FIG. 4 illustrates an example of the step 120 of FIG. 3 in which the plurality of projections are shaped. Consequently, FIG. 4 is obviously a section drawing of the step of forming the projections seen in FIG. 2, but it is simply not labeled so in Kaneko. It is simply not an illustration of the formation of ribs.

Therefore, Kaneko does not disclose the step of forming ribs on a plate, as required by independent claim 1. Accordingly, the rejection is improper and should be withdrawn.

VI. The Claims Are Non-Obvious Over Kaneko, Marianowski, Mientek and JP ‘917

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of Marianowski. Marianowski is cited as disclosing a nested separator arrangement in Fig. 3 to provide both reactant flow and coolant flow to the separator. This rejection is respectfully traversed.

Marianowski fails to overcome the deficiencies of Kaneko noted above. Specifically, Marianowski fails to disclose or make obvious the step of forming a pattern on a central portion of a sheet, the pattern including **ribs** defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet. Accordingly, the rejection is improper and should be withdrawn.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of

- Mientek. Mientek is cited as disclosing the step of folding the edges of a fuel cell separator. This rejection is respectfully traversed.

Mientek fails to overcome the deficiencies of Kaneko noted above. Specifically, Mientek fails to disclose or make obvious the step of forming a pattern on a central portion of a sheet, the pattern including **ribs** defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet. Accordingly, the rejection is improper and should be withdrawn.

Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaneko in view of JP '917. JP '917 is cited as disclosing manufacturing a separator material wherein the separator sheet is provided from a continuous coil. This rejection is respectfully traversed.

JP '917 fails to overcome the deficiencies of Kaneko noted above. Specifically, JP '917 fails to disclose or make obvious the step of forming a pattern on a central portion of a sheet, the pattern including **ribs** defining a fuel flow path on a first side of the sheet and an oxidant flow path on an opposed second side of the sheet.

Further, JP '917 fails to disclose the step of coiling the sheet after the sheet has been passed through the tool. JP '917 merely discloses a sheet that is provided **from** a coil. For this reason as well, the rejection is improper and should be withdrawn.

VII. Allowable Subject Matter

Applicant thanks the Examiner for the indication that claims 2-9 would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claim. Since claim 1 is believed to be allowable in its present form, as discussed above, claims 2-9 are believed to be allowable, and an indication to that effect is respectfully requested.

VIII. Conclusion

Reconsideration and allowance of pending claims 1-13 and 31-32 is respectfully requested. If a telephone conversation with Applicant's attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 720-9600.

The Commissioner is hereby authorized to charge any additional fees or credit overpayment to Deposit Account No. 19-0733.

Respectfully submitted,

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